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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,865	02/20/2004	Greg Pellegrino	200301878-2	7590

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EXAMINER	
CHU, GABRIEL L	
ART UNIT	**PAPER NUMBER**
2114	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/783,865	PELLEGRINO ET AL.	
	Examiner	Art Unit	
	Gabriel L. Chu	2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 6, 7, 13-15, and 19 objected to because of the following informalities:

Referring to claims 6, 7, 13, and 14, "the target node" is understood to refer to "the target node of the at least two target nodes".

Referring to line 5 of claim 15, "network interconnect" is understood to refer to "a network interconnect".

Referring to line 14 of claim 15, "the first target" is understood to refer to "the first target node".

Referring to line 2 of claim 19, "the dataset" is understood to refer to "the mirrored dataset".

Referring to line 5 of claim 19, "a second node" is understood to refer to "a second storage node".

Referring to lines 8 and 10 of claim 19, "the node" is understood to refer to "the first node".

Referring to line 11 of claim 19, "the first path has good status..." is understood to refer to "if the first path has good status..."

Appropriate correction is required.

Double Patenting

2. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re*

Ockert, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

3. Claims 6, 7, 13, 14, 19, 20 of the instant application (herein 865) rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1, 5, 6, 10, 14, 15 of prior U.S. Patent No. 6725393 (herein "the parent"). This is a double patenting rejection.

4. Claims 6/865 rejected in view of claim 1 of the parent.

5. Claims 7/865 rejected in view of claim 5 of the parent.

6. Claims 13, 14/865 rejected in view of claim 6, 10 of the parent.

7. Claims 19, 20/865 rejected in view of claim 14, 15 of the parent.

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. **Claims 1-5, 8-12, 15-18 of the instant application rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4, 6-9, 11-13 of U.S. Patent No. 6725393 (herein "the parent").** Although the conflicting claims are not identical, they are not patentably distinct from each other.

10. Claim(s) 1-4, 6-9, 11-13 of the parent contain(s) every element of claim(s) 1-5, 8-12, 15-18 of the instant application and as such anticipate(s) the claim(s). The claim language has direct correspondence, and so, will not be mapped by Examiner.

11. "A later patent claim is not patentably distinct from an earlier patent claim if the later claim is obvious over, or anticipated by, the earlier claim. In re Longi, 759 F.2d at 896, 225 USPQ at 651 (affirming a holding of obviousness-type double patenting because the claims at issue were obvious over claims in four prior art patents); In re Berg, 140 F.3d at 1437, 46 USPQ2d at 1233 (Fed. Cir. 1998) (affirming a holding of obviousness-type double patenting where a patent application claim to a genus is anticipated by a patent claim to a species within that genus). " ELI LILLY AND COMPANY v BARR LABORATORIES, INC., United States Court of Appeals for the Federal Circuit, ON PETITION FOR REHEARING EN BANC (DECIDED: May 30, 2001). In re Goodman (CAFC) 29 USPQ2d 2010.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. **Claims 1-3, 8-10, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6535518 to Hu et al.**

14. Referring to claim 1, Hu et al. disclose a host bus adapter for interconnecting a computer system to a storage area network (See figure 9.) comprising

hardware for transmission of frames (From line 35 of column 8, "If a match is found, the subsequent data (until the end of the http payload; perhaps an html file) will be forwarded per the router; otherwise, the http payload will be sent to the server for further processing (the default route).");

hardware for reception of frames (From line 31 of column 8, "An incoming user/client request is received from Ethernet interface...".);

memory for storage of frames (From line 64 of column 8, "A pool of memory is used to dynamically control the traffic and buffer asynchronous flows. Control Unit (300) coordinates all the activities.");

a processor for processing frames, the processor coupled to the hardware for transmission of frames, the hardware for reception of frames, and the memory for storage of frames, wherein the processor is capable of inspecting frames for encapsulated write requests and, if encapsulated write request frames are found, deencapsulating the write request and forwarding the write request through the

hardware for transmission of frames to a target node of the write request (From line 31 of column 8, "An incoming user/client request is received from Ethernet interface (310) and decoded at different layers from the Ethernet format (311) and IP/TCP (312) format. Then http header is parsed against the Expanded Routing Table residing in the Router (313, 314 and 315). If a match is found, the subsequent data (until the end of the http payload; perhaps an html file) will be forwarded per the router; otherwise, the http payload will be sent to the server for further processing (the default route). A routing table match indicates an established (authorized) connection. For example, if the data is sent to storage, it may be an authorized WRITE to the storage. The data routed to the server can either be an initial request for access or server-oriented traffic. The server may process the request with a log-in (if applicable) using an authentication, authorization, and accounting (AAA) process. The software on the server will communicate with the device for all necessary setup (e.g., routing table and file system for the storage) through the Router Control (316) and Scheduler (in 315) and then pass the control to the device and notify the storage to start a response to that request with a given file ID (or name) for the file system (351) through the control path. The file system (351) then can issue commands to SCSI Interface (350) to fetch the data.").

15. Referring to claims 2 and 9, Hu et al. disclose the processor further inspects frames for responses to encapsulated write requests and, when such responses are found, forwards the responses to a source node from which the original encapsulated write request frames came (From line 53 of column 8, "When the response data in html format comes back from storage, it will be correlated to an established connection in the

ERT (315) for proper path (314). Then an http header will be added (322). TCP/IP protocol conversion is carried out on the device (321 and 320). Finally, the data will be packed in Ethernet packets and sent out through the Ethernet Interface (310). The transfer from the storage to the network through the device for this connection will continue until it is completed or the device is notified by the server or storage to stop sending under certain events (e.g., error or user jumping to another web page).").

16. Referring to claims 3 and 10, Hu et al. disclose simultaneous connection to at least two links, having a transmitter and a receiver for coupling to each link (From line 37 of column 8, "forwarded per the router; otherwise, the http payload will be sent to the server". Further, from line 46 of column 8, "The software on the server will communicate with the device for all necessary setup (e.g., routing table and file system for the storage) through the Router Control (316) and Scheduler (in 315) and then pass the control to the device and notify the storage to start a response to that request with a given file ID (or name) for the file system (351) through the control path." Further, from line 53 of column 8, "When the response data in html format comes back from storage, it will be correlated to an established connection in the ERT (315) for proper path (314).").

17. Referring to claim 8, Hu et al. disclose a node for connection to a storage area network (See figure 9.) comprising

hardware for transmission of frames (From line 35 of column 8, "If a match is found, the subsequent data (until the end of the http payload; perhaps an html file) will

be forwarded per the router; otherwise, the http payload will be sent to the server for further processing (the default route).");

hardware for reception of frames (From line 31 of column 8, "An incoming user/client request is received from Ethernet interface...".);

memory (From line 64 of column 8, "A pool of memory is used to dynamically control the traffic and buffer asynchronous flows. Control Unit (300) coordinates all the activities.");

at least one processor for processing frames, the processor coupled to the hardware for transmission of frames, the hardware for reception of frames, and the memory for storage of frames, wherein the processor is capable of inspecting frames for encapsulated write requests and, if encapsulated write request frames are found, deencapsulating the write request and forwarding the write request through the hardware for transmission of frames to a target node of the write request (From line 31 of column 8, "An incoming user/client request is received from Ethernet interface (310) and decoded at different layers from the Ethernet format (311) and IP/TCP (312) format. Then http header is parsed against the Expanded Routing Table residing in the Router (313, 314 and 315). If a match is found, the subsequent data (until the end of the http payload; perhaps an html file) will be forwarded per the router; otherwise, the http payload will be sent to the server for further processing (the default route). A routing table match indicates an established (authorized) connection. For example, if the data is sent to storage, it may be an authorized WRITE to the storage. The data routed to the server can either be an initial request for access or server-oriented traffic. The

server may process the request with a log-in (if applicable) using an authentication, authorization, and accounting (AAA) process. The software on the server will communicate with the device for all necessary setup (e.g., routing table and file system for the storage) through the Router Control (316) and Scheduler (in 315) and then pass the control to the device and notify the storage to start a response to that request with a given file ID (or name) for the file system (351) through the control path. The file system (351) then can issue commands to SCSI Interface (350) to fetch the data.").

18. Referring to claim 15, Hu et al. disclose a computer network comprising:

a first node (From line 31 of column 8, "An incoming user/client request is received from Ethernet interface...".);

a second node (From figure 9, a routing mechanism is shown.);

a first target node (From figure 9, a SAN is shown.);

a network interconnect providing communication between the first node and the second node, and providing communication between the second node and the first target node (From figure 9, it is shown that the network is interconnected with the routing mechanisms, and that the routing mechanisms are further interconnected with the SAN.);

wherein the second node is capable of inspecting incoming frames for encapsulated write requests and, if encapsulated write request frames are found, deencapsulating a write request from the encapsulated write request frames and forwarding the write request to the first target node (From line 31 of column 8, "An incoming user/client request is received from Ethernet interface (310) and decoded at

different layers from the Ethernet format (311) and IP/TCP (312) format. Then http header is parsed against the Expanded Routing Table residing in the Router (313, 314 and 315). If a match is found, the subsequent data (until the end of the http payload; perhaps an html file) will be forwarded per the router; otherwise, the http payload will be sent to the server for further processing (the default route). A routing table match indicates an established (authorized) connection. For example, if the data is sent to storage, it may be an authorized WRITE to the storage. The data routed to the server can either be an initial request for access or server-oriented traffic. The server may process the request with a log-in (if applicable) using an authentication, authorization, and accounting (AAA) process. The software on the server will communicate with the device for all necessary setup (e.g., routing table and file system for the storage) through the Router Control (316) and Scheduler (in 315) and then pass the control to the device and notify the storage to start a response to that request with a given file ID (or name) for the file system (351) through the control path. The file system (351) then can issue commands to SCSI Interface (350) to fetch the data.");

and wherein the second node further is capable of inspecting frames received from the first target node for responses to previously forwarded encapsulated write requests and, when responses to previously forwarded encapsulated write requests are found, forwarding the responses to the first node (From line 53 of column 8, "When the response data in html format comes back from storage, it will be correlated to an established connection in the ERT (315) for proper path (314). Then an http header will be added (322). TCP/IP protocol conversion is carried out on the device (321 and 320).

Finally, the data will be packed in Ethernet packets and sent out through the Ethernet Interface (310). The transfer from the storage to the network through the device for this connection will continue until it is completed or the device is notified by the server or storage to stop sending under certain events (e.g., error or user jumping to another web page).").

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

20. **Claims are 4, 11, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6535518 to Hu et al. as applied to claims 2, 9, and 15 above, in further view of US 5216619 to Dunbar, Jr. et al.**

21. Referring to claims 4 and 11, although Hu et al. do not specifically disclose responding to a query frame, the query frame containing a request for status of any path that might exist from the host bus adapter to a specified target node, querying to determine the status of a connection between two nodes is known in the art. An example of this is shown by Dunbar, Jr. et al. from line 50 of column 4, "Paths themselves have states. An operator or engineer may have reason to query the status of a path, and the management of paths requires they have interrogatable statuses. Paths have at least the following states: In-use, meaning the path has been selected by

an operator. The path remains in-use until it is dissolved by the path/agent who invoked it." A person of ordinary skill in the art at the time of the invention would have been motivated to query the status of a path because, from line 50 of column 4, "An operator or engineer may have reason to query the status of a path, and the management of paths requires they have interrogatable statuses."

22. Referring to claim 16, although Hu et al. do not specifically disclose the second node is capable of responding to a path query frame with a status of a path from the second node to the first target node, querying to determine the status of a connection between two nodes is known in the art. An example of this is shown by Dunbar, Jr. et al. from line 50 of column 4, "Paths themselves have states. An operator or engineer may have reason to query the status of a path, and the management of paths requires they have interrogatable statuses. Paths have at least the following states: In-use, meaning the path has been selected by an operator. The path remains in-use until it is dissolved by the path/agent who invoked it." A person of ordinary skill in the art at the time of the invention would have been motivated to query the status of a path because, from line 50 of column 4, "An operator or engineer may have reason to query the status of a path, and the management of paths requires they have interrogatable statuses."

23. Referring to claim 17, Hu et al. disclose the network interconnect is fibre channel compatible (From line 9 of column 8, "In this description, there are three types of logical medium interfaces: the network, storage and server(s). In actual implementation, various physical interfaces are possible, e.g., multiple network interfaces or storage interfaces or multiple servers. Buffers are used to synchronize transmission between

interfaces. An example of implementation may be Ethernet, ATM or SONET for network interface, SCSI, Fibre Channel, PCI, InfiniBand, or other system I/O technology.").

24. **Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6535518 to Hu et al. as applied to claims 1 and 8 above, and further in view of US 5155845 to Beal et al.**

25. Referring to claims 5 and 12, although Hu et al. do not specifically disclose maintaining a mirrored dataset on at least two target nodes, a mirrored dataset is known in the art. An example of this is shown by Beal et al. from the abstract, "A disk storage system that writes multiple copies of records directed to user-specified volumes. A plurality of spaced apart control units interconnected by direct data links and a corresponding plurality of sets of recording means communicate over the direct data links when a write request is received by one control unit to cause one volume in each set of recording means to write a copy of the received record." A person of ordinary skill in the art at the time of the invention would have been motivated to maintain a mirrored dataset because, from line 62 of column 2, "the failure of a single system component will not prevent a connected host from obtaining access to stored data records".

26. Claims 6, 7, 13, 14 rejected under 35 U.S.C. 103(a) as being unpatentable over US 6535518 to Hu et al. as applied to claims 1 and 8 above, and further in view of US 5155845 to Beal et al. as applied to claims, 5, 12 above, and further in view of US 6721899 to Narvaez-Guarnieri et al. (herein NG).

27. Referring to claim 6, 13, Hu in view of Beal discloses the host bus adapter/node can have a path to a target node of at least two target nodes for writing (see Hu in view of Beal above).

Although Hu in view of Beal does not specifically disclose the host bus adapter/node is capable of determining that it has no direct path to a target node of the at least two target nodes, and, when no direct path exists, is capable of requesting that another node perform a surrogate write to the target node, performing a write through a proxy in response to path failure is known in the art. An example of this is shown by NG, from line 37 of column 2, "A tunneling scheme can be implemented as follows. After the link between A and B fails, router A detects the failure, but does not broadcast this information to the rest of the network. Instead, it uses its shortest path first (SPF) engine to compute the new shortest path to router B and records the new next hop for B. Router A then sends a special packet containing the information regarding the failed link through that next hop. When the next hop router, N1 in our example, receives the special packet, it in turn re-computes the new shortest path to B, determines and records the new next hop to B, and forwards the special packet along that next hop. This operation is repeated until router B receives the special packet, i.e., router B is the computed next hop router. In this manner, router A and all of the routers in the restoration path--routers N1, N2, and N3 in our example--are informed of the link failure and are capable of forwarding packets to B along the new path. When a regular data packet that needs to traverse the failed link arrives at A, the packet is encapsulated in another packet with destination B and forwarded along the newly computed shortest

path until it reaches B. Upon arrival at B, the original packet is decapsulated and forwarded according to the established routing table." A person of ordinary skill in the art at the time of the invention would have been motivated to perform a surrogate write because, from line 34 of column 2 of NG, "All the traffic that should have traveled through the broken link is now diverted into this new path, which acts as a virtual link." And further, because from line 39 of column 2 of NG, "router A detects the failure, but does not broadcast this information to the rest of the network. Instead, it uses its shortest path first (SPF) engine to compute the new shortest path to router B and records the new next hop for B" and from line 63 of column 2, "the network does not know about the failure, global routing continues to function correctly, though possibly sub-optimally."

28. Referring to claims 7, 14, although Hu in view of Beal do not specifically disclose the host bus adapter/node is capable of scanning nodes of a network to determine a node capable of performing a surrogate write to the target node, determining a node to perform a write through as a proxy is known in the art. An example of this is shown by NG, from line 37 of column 2 (with emphasis), "A tunneling scheme can be implemented as follows. After the link between A and B fails, router A detects the failure, but does not broadcast this information to the rest of the network. Instead, **it uses its shortest path first (SPF) engine to compute the new shortest path to router B and records the new next hop for B.** Router A then sends a special packet containing the information regarding the failed link through that next hop. When the next hop router, N1 in our example, receives the special packet, it in turn re-computes the new shortest path to B,

determines and records the new next hop to B, and forwards the special packet along that next hop. This operation is repeated until router B receives the special packet, i.e., router B is the computed next hop router. In this manner, router A and all of the routers in the restoration path--routers N1, N2, and N3 in our example--are informed of the link failure and are capable of forwarding packets to B along the new path. When a regular data packet that needs to traverse the failed link arrives at A, the packet is encapsulated in another packet with destination B and forwarded along the newly computed shortest path until it reaches B. Upon arrival at B, the original packet is decapsulated and forwarded according to the established routing table." Where network nodes are made known to the router and a subsequent node is chosen and used, nodes are "scanned". A person of ordinary skill in the art at the time of the invention would have been motivated to perform a surrogate write because, from line 34 of column 2 of NG, "All the traffic that should have traveled through the broken link is now diverted into this new path, which acts as a virtual link." And further, because from line 39 of column 2 of NG, "router A detects the failure, but does not broadcast this information to the rest of the network. Instead, it uses its shortest path first (SPF) engine to compute the new shortest path to router B and records the new next hop for B" and from line 63 of column 2, "the network does not know about the failure, global routing continues to function correctly, though possibly sub-optimally."

29. **Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6535518 to Hu et al. and US 5216619 to Dunbar, Jr. et al. as applied to claim 17 above, and further in view of US 5155845 to Beal et al.**

30. Referring to claim 18, although Hu et al. and Daniel, III et al. do not specifically disclose a second target node and the network interconnect further provides communication between the second target node and the first node; and wherein the first node is capable of maintaining a mirrored data set having a copy on the first target node and the second target node, a mirrored dataset is known in the art. An example of this is shown by Beal et al. from the abstract, "A disk storage system that writes multiple copies of records directed to user-specified volumes. A plurality of spaced apart control units interconnected by direct data links and a corresponding plurality of sets of recording means communicate over the direct data links when a write request is received by one control unit to cause one volume in each set of recording means to write a copy of the received record." A person of ordinary skill in the art at the time of the invention would have been motivated to maintain a mirrored dataset because, from line 62 of column 2, "the failure of a single system component will not prevent a connected host from obtaining access to stored data records".

Conclusion

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See notice of references cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gabriel L. Chu whose telephone number is (571) 272-3656. The examiner can normally be reached on weekdays between 8:30 AM and 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gabriel L. Chu
Primary Examiner
Art Unit 2114

gc